

Project Narratives, Scope of Work, and Budget Example

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**Ultimate Reservoir Mussel Prevention Program Improvement Project
Co-Energy and Water Spikes Recreational Management Division**

Example Application (Implementation/Construction Project)

*The objective of the Project Description Narrative is to give the reviewer an overall picture of the reservoir and the project area; the impacts due to a potential of a quagga and zebra mussel infestation, the proposed Project, how the project will improve current conditions and why it is needed. Some of the information requested in the Narrative may not be directly related to the Project; however, the information is useful in the review of the Project application. Therefore, in order for the reviewer to have the overall picture of the prevention effort, the information requested should be included in his Narrative. The applicant **MUST** following the application instructions in the Grant Guidelines.*

Section A. Reservoir, Project Area and Management of Activities

A1. Reservoir and Project Area Description

This section is to be written as a narrative, with the section labeled (see narrative instructions for Planning/Assessment Project and Implementation Project). The objective of this section is to give the reviewer a good overall picture of the reservoir, the Project site, recreational activities and the management of those activities.

Ultimate Reservoir, nestled in the James Range Mountains, is located five miles northeast of Game town at an elevation of 6,600 feet. The reservoir, at capacity, holds 250,000 acre-feet of water. Typically, water from precipitation, in the form of snowmelt and rain, has kept the volume of water in the reservoir at capacity. In addition, mountain streams feed the reservoir. However, due to the increase demand for water and decrease in precipitation during the last five years in the State of Kelp, the reservoir has struggled to maintain full capacity. In the past several years, the reservoir has been operating at 180,000 acre-feet, approximately 75% of capacity. The reservoir is owned and managed by the Department of Water. Hydro- Energy and Water Spike Agency (Hydro - Energy Water Agency) operates the hydro-electric dam on the reservoir, which supplies water and energy to the surrounding communities. Co-Hydro-Energy and Water Spike Management manages the activities in the reservoir recreational area through authority from Hydro - Energy Water Agency. The reservoir has sixty miles of shoreline. These venues not only facilitate a full recreational outdoors experience for visitors, but they also manage activities to preserve and protect the reservoir and the surrounding environment through methods such as inspection to prevent the infestation of non-indigenous species.

There are two marinas on Ultimate Reservoir (Reservoir); North Marina and South Marina. In 2006, North Marina Development Project was initiated at the north end of the reservoir. Upon completion of the project in 2008, North Marina now has the capacity to dock up to eighty motorized watercrafts and provides a storage area for un-motorized watercrafts. The marina also includes two boat ramps, a restaurant, and a general store. Campground with restrooms and a paved area for parking were completed in 2011. Table 1 includes the facility upgrades funded through the Division of Boating and Waterways.

Table 1. DBW Funded Projects

Upgrades	Location	Amount Funded	Year Funded	Year Completed
1 Ramp and	North Marina	\$200,000	2006	2008
1 Dock	North Marina	\$600,000	2006	2008

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A.2. Description of the Recreational Activities

Not only does Ultimate Reservoir provide electricity and water for the surrounding communities, it is also considered one of the most desired recreational use areas in Kelp. Annually, the reservoir is stocked with trout and blue gill; resident species include large and small mouth bass, tui chub, suckers, shiners, and crayfish. Several sport fishing tournaments and canoe regattas are held annually. The reservoir is widely used for boating, skiing, paddle boarding, canoeing, recreational fishing and parasailing.

Boating and recreational activities on the reservoir are only allowed during the hours between sunrise and sundown year-round. All safe boating recreational regulations and ordinances are enforced by rangers and law enforcement patrolling the reservoir. Launch ramps are closed when the reservoir's inspection station closes; no boats are allowed on the reservoir overnight except those renting slips in the marina. Fishing is allowed from boats and in permitted areas near the marinas and campgrounds only. Only commercially packaged bait purchased at the concessionaire is allowed. Table 2 includes the reservoir recreational usage information and Table 3 includes launch information.

Table 2. Usage Table

Name/Location of Launch Site	Watercrafts Allowed Yes/No		Outside Usage (Yes/No)		Activities (i.e., boating, fishing, etc.)
	Motorized	Non-Motorized	Public	Private	
North Marina	Yes	Yes	Yes	No	Boating, fishing, swimming, canoeing, tournaments
South Marina	Yes (small watercraft)	Yes	Yes	No	Boating, canoeing, paddle boarding

Table 3. Records of Launched Watercraft within the last 3 years

North Marina			South Marina		
Years	Motorized	Non-motorized	Years	Motorized	Non-motorized
2012	5000	3000	2012	1234	500
2013	7500	4250	2013	2500	540
2014	8000	4500	2014	4000	675

Campsites were filled to capacity all 3 years.

There are launching capabilities in several reservoirs within a ten mile radius; however none are known to be infested. Additionally, these reservoirs are included under the Longtime Coming Regional Prevention Program, which is described in the next section. Concern has risen over the threat of infestation from out-of-state watercraft launching in the reservoir. Information regarding the launching of infested or un-infested watercraft, prior to 2012, at Ultimate Reservoir is limited or unknown to staff because a prevention program did not exist.

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A.3. Description of Management of Recreational Activities

A vulnerability study, completed in 2008, determined that Ultimate Reservoir was at a high risk for the potential introduction of quagga and zebra mussels. The high risk designation was based on the amount of watercraft traffic in the reservoir, the type of recreational water activities, the volume of visitors, the potential of recreational equipment used in infested waterbodies coming in to the reservoir, potential use of unauthorized shoreline access and the inlets to the reservoir. Refer to the attached Prevention Plan for additional information on the vulnerability assessment.

Ultimate Reservoir is part of the Longtime Coming Regional-Scale Prevention Program (LTCRPP) designed to provide a more comprehensive, cost effective protection and prevention strategy across a regional area compared to that of an individual reservoir prevention program. LTCRPP was established in 2012. The LTCRPP includes multiple waterbodies including reservoirs (Excellent, Awesome, and Great), lakes (Content and Happy) and other waterways and tributaries (Long River, Short Stream, and the Medium River). LTCRPP involves the cooperation of many entities including state, federal, Tribes, local government agencies, districts and non-profit organizations to coordinate in the prevention of quagga/zebra mussel infestation. The LTCRPP works together by following the same protocols, equipment, and communication strategy to coordinate activities and disseminate information throughout the area. Meetings are held on a monthly basis to maintain consistency, tackle issues that arise, and to maintain momentum of the group. The Regional Prevention Plan is included in the application packet.

Due to the increasing threat of quagga and zebra mussel infestation from the growing numbers of water users, a staffed inspection station, and a reciprocal banding program was implemented at North Marina in 2012. The reciprocal banding is part of a regional scaled program effort, which includes Ultimate Reservoir, to prevent the introduction of mussels into the waterbodies. The reservoir and the inspection stations at North Marina are open year-round.

However, the inspection station during the winter (November 1 - March 31) is limited to part-time staff. Upon entering the inspection station area, visitors are required to fill-out a questionnaire requesting information pertaining to the location of the watercraft's previous launch. This information is used to determine the level of inspection required and if quarantine of the watercraft is needed. If it is determined that a watercraft has been launched in a waterbody infested with quagga and zebra mussel, the watercraft is held in quarantine for 35 days. New watercrafts to the reservoir are quarantined for seven days. Information on all watercrafts entering the inspection area is documented in the Quagga Inspection Database (QID) through a hand held device. The LTCRPP requires that all first time watercraft entering the reservoirs undergo a clean and dry inspection, which, if successful, the watercraft will go through the tagging process below. If the watercraft does not pass inspection, it is required to be quarantined for 35 days. After passing the inspection and quarantine process, each watercraft is cabled to its trailer and locked with a tamper proof tag. Upon entry to the reservoir, the tamper proof tag is cut allowing the watercraft to be used. Upon exiting the reservoir, the watercraft is re-cabled and a new tag is attached. This allows the watercraft to re-launch without going through another inspection and decontamination process. Kayaks and canoes are also required to go through a clean and dry inspection process before entering the reservoir.

There is also a marina on the south end of the reservoir (South Marina); constructed in the 1960's. However, this marina is more limited in scope, compared to the North Marina. The South Marina consists of one small boat ramp and ten small motorized boats docking spaces. The inspection process at the South marina consists of a kiosk and volunteer self-inspection station. North and South Marinas are the only permissible launching sites on the reservoir.

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However, water users have been known to launch small watercraft from the shoreline (consisting of approximately 25% of the miles around the reservoir), which is not permitted. Since this area is unmanned; it is considered a highly vulnerable point for infestation when water users enter the reservoir undetected.

The installation of a decontamination unit and mechanical arms are tasks requested for funding in the project proposal. The devices will be shared among all entities under the LTCRPP.

Access to the reservoir is only allowed in permitted areas. Access from the shoreline is not allowed. The use of bait that is not obtained from Ultimate Reservoir concessionaires is prohibited. Table 4 outlines the restriction information.

Table 4. Reservoir(s) Restrictions

Reservoir(s) Name	Season Dates	Activities					
		Motorized	Non-Motorized	Live-Bait	Fishing	Body Contact with water	Other
Ultimate	April 15 – October 1	No overnight except where designated	No overnight except where designated	Obtained outside of the Reservoir	To allow areas	No Swimming at South Marina	Access not allowed in non-permitted areas

Attachment A-1 and A-2 are maps of the reservoir indicating the project area as well as the LTCRPP area.

Section B. Project Description

The objective of this section is to provide a good picture of the proposed Project and the coordination of activities with other entities in the surrounding area. Provide a clear description of the work to be completed under the Project, including a summary of tasks, the goals, objectives, and outcomes. In addition, provide a brief summary of the regional-scale prevention program (waterbodies, partner entities, and benefits, etc.), if appropriate. If the work under this project is ongoing, explain how the work will continue after the grant has ended.

The project seeks to improve and increase activities to prevent the introduction of quagga and zebra mussels in Ultimate Reservoir as well as provide additional protection to waterbodies in the surrounding area included in the LTCRPP.

The first task of the project is to request reimbursement of the environmental review process to implement the construction of the decontamination station. A mitigated negative declaration was obtained in 2014 for the preparation and installation of the decontamination unit at the North Marina. The mitigated negative declaration is submitted as one of the attachments to the grant application.

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The second task of this project proposes to install a decontamination station and mechanical arms at the North Marina ramps. The decontamination unit is a modular, above ground, self-contained watercraft decontamination and wastewater processing system. This system can be moved and deployed at the South Marina, if needed. The system is a pressurized water power system that uses water temperature at 130°- 160°F to kill and remove mussels that are lodged in the watercraft. When a new watercraft arrives at the site, the watercraft owner will be given the option of holding the watercraft in quarantine for seven days or undergo the decontamination process. If the watercraft is infested, or suspected of being infested, it will be quarantined for 35 days. The watercraft owner will be charged a fee for the decontamination process. This fee will provide funding to support staff and resources needed to operate the decontamination and the inspection stations. Pictures of the decontamination station are provided as an attachment. The decontamination station will be used by the South Marina as well. If a new watercraft arrives at South Marina, the owner will be instructed to transport the watercraft to North Marina for decontamination or quarantine. Mechanical arms will be installed at both ramps to prevent access to the reservoir during the time the inspection station is closed.

The third task proposes to implement a staffed inspection station at South Marina. Currently, South Marina is dependent upon the honor system volunteer self-inspection process. In the past few years, the number of watercraft and visitors at South Marina has increased; raising concern for the potential of mussel introduction. Work under this task would employ two fulltime and four part-time staff inspectors. South Marina would be open year-round, seven days a week from one hour before sunrise to one hour after sunset. In addition, a mechanical arm will be installed in front of the ramp to prevent reservoir access during closed inspection hours. New watercraft and equipment to the reservoir would require decontamination at the North Marina or a seven-day quarantine.

The fourth task is to continue implementing the existing reciprocal banding program at the North Marina, and the expansion of the program at the South Marina. The reciprocal banding program was established and implemented in 2012 at North Marina. The program consists of placing a wire security seal between the watercraft and the trailer by the inspector after decontamination or inspection of a watercraft. If the seal is intact, this signifies that the watercraft has been inspected and can directly enter the reservoir from the launching ramp. The band is removed by staff and watercraft is allowed to launch. Before the watercraft leaves the reservoir area, staff will place a new band between the watercraft and trailer. This system expedites the inspection process and alleviates traffic congestion for boaters on the road leading to the inspection area as well as the road around the reservoir. The band would be readily accepted at all reservoirs under the LTCRPP.

The goal of the project is to improve techniques aimed at preventing the introduction of quagga and zebra mussel into the reservoir as well as the other waterbodies included under the LTCRPP. The tasks in the project will help to reduce the vulnerability/ threat of infestation. The objectives of the project include:

- Increase protection and prevention tactics against infestation, and
- Increase and streamline the inspection process.

The outcome of this project is to decrease the risk of quagga and zebra mussel introduction in the reservoir and other water bodies included under the LTCRPP. The costs associated with the infestation and establishment of the quagga and zebra mussels can be devastating to any community. Once mussels are established, they are very difficult to control and eradicate. Prevention of introduction is the best and most cost effective tool to deal with mussel infestation.

This project is to increase the prevention of a quagga and zebra mussel infestation to the Ultimate Reservoir, but is not part of a large multi-phase project.

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Section C. Regional Impact from Quagga and Zebra Mussel Infestation

The section requires the applicant to project the impacts due to a potential mussel introduction/infestation. Describe the ecological, recreational, and economic impacts associated with a potential mussel introduction/infestation. Describe each impact separately with broad qualitative as well as quantitative (if possible) effects on the reservoir(s) area and surrounding community(ies).

Currently, Ultimate Reservoir and all other waterbodies under the LTCRPP are not infested with quagga and zebra mussels. However if these waterbodies were to become infested, the result would have devastating effects on the environment in and outside of the reservoir and the local economy in the surrounding regional area. The ecological impact alone will lead to a domino effect on the recreational activities; ultimately, a great economic burden on the local community.

Ecological Impact

Quagga and zebra mussels are very prolific and have the ability to alter the ecological conditions of a reservoir. Quagga and zebra mussels can filter a large amount of water thereby removing vital nutrients that can change the physical and chemical elements of the water (e.g., pH, minerals, clarity, dissolved oxygen etc.) as well as decrease the availability of food for other aquatic species. Quagga and zebra mussels can also accumulate toxins causing mortality to the aquatic organism that prey upon them. The removal or displacement of resident species, through mortality for example, may cause changes in the ecosystem dynamics of a waterbody. The ability to filter suspended material from the water column may also decrease the survival of other species. The removal of suspended material through filtration may increase water clarity in the reservoir allowing more light penetration. The increase in light can stimulate the growth of noxious plants, phytoplankton, and algae which can lead to the decline of dissolved oxygen and degrade water quality causing fish mortality and create undesirable esthetic conditions in the reservoir. These impacts would have a severe effect on the current vibrant and healthy ecosystem in Ultimate Reservoir.

Recreational Impacts

The ecological impact would have a huge impact on the recreational activities in the reservoir. The removal of fish species and changes in the appearance of the reservoir would decrease the popularity of the reservoir for recreational activities such as national and state fishing tournaments and boating events, beach goers, camping, etc. Quagga and zebra mussels can accelerate the deterioration of boat docks and ramps due to their ability to cluster/ attach and accumulate on hard surfaces. They also have a tendency to lodge into boat engines and piping, which can be costly repairs for watercraft owners. Damages to watercraft caused by the mussels are estimated to be in the hundreds to thousands of dollars in repairs.

Potential Economic Impact

The trickle-down effect of ecological and recreational impacts due to quagga and zebra mussel infestation in the reservoir would wreak havoc on the local economy. The majority of the surrounding communities' depend on the revenue generated from the visitors drawn to Ultimate Reservoir as well as surrounding waterbodies. Approximately, two million dollars is contributed towards the local economy annually through tourism. If the reservoir were to deteriorate, it would cause a great economic loss to the area due to a decrease in visitors. Another economic impact of quagga and zebra mussel infestation is the damage that they pose

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to existing infrastructure. Invasive mussels clog water intake pipes and filters, reducing water pumping capabilities for power and water supply for Hydro - Energy Water Agency. For example, the widespread quagga and zebra mussel infestation in the Great Lakes during 2000- 2010 has resulted in an economic impact of over five billion dollars. Therefore, considering the impacts to the combined industries in the area, the economic impact would be enormous.

Section D. Technical and Feasibility Approach

This section should include information on the scientific basis of the Project. If the Project has been done successfully in other reservoirs, it would be important to discuss this information here. In addition, include any web links or citation that would provide support for the work under this Project. Include evidence that the Project can be completed within the timeframe of the grant and within budget.

Prevention is the most economic, efficient, and effective means of dealing with a potential quagga and zebra mussel infestation. Some of the primary techniques to prevent infestation are through management of recreational activities and outreach and education. The purpose of this Project is to implement improvements on the existing prevention program by increasing the inspection capabilities, instituting a reciprocal banding program and implementing a decontamination station for new watercraft, and mussel contaminated watercraft or watercraft suspected of containing quagga and zebra mussels entering the reservoir. These methods have proven to be effective to prevent quagga and zebra mussel infestation. Below are links to studies that promote the use of these prevention methods.

[Comeau, Sean R. 2011. Colonization and decontamination of quagga mussels in the United States: Monitoring veligers in Lake Mead and field testing in the effects of hot-water spray as a means of watercraft decontamination. University of Nevada, Las Vegas. May 2011.](#)

[Zook, Bill and Stephen Phillips. 2012. Uniform Minimum Protocols and Standards for Watercraft Interception Programs for Dreissenid Mussels in the Western United States \(UMPS II\). Pacific States Marine Fisheries Commission. Portland, Oregon. January 2012.](#)

Prevention improvements were selected in the North and South Marinas based on the increased visitors and activities in the area within the last two years; more visitors and activities correlates to a potential increase in the risk of quagga and zebra mussel introduction. Ultimate Reservoir is one of the premier water bodies to visit not only statewide; but nationally.

However, at the same time, it is a very fragile environmental and water resource; therefore protection is a high priority for the State of Kelp. The decontamination unit will reside at the North Marina; however the unit is mobile and can be moved to another area, if needed. The implementation of the prevention techniques in the project will be completed with the two-year timeframe of the grant and within budget.

Section E. Monitoring/Tracking and Assessment of Project Outcomes

This section should contain information on the method used to track the progress of the project and how the project will be evaluated for success. Monitoring, in the context of this section, is tracking the progress and success (performance measures) of the Project. Therefore, setting milestones or benchmarks should be used to measure performance. If the Project is not progressing as anticipated, there should be a process set in motion (decision points) to reconcile the issue so the project moves forward. Tracking should be conducted periodically using milestones to ensure that the project is being implemented on schedule and if any changes need to be made (adaptive management).

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The Project will be tracked accordingly to the progress of each task. The completion of subtasks, under each task, will be used as milestones to track the progress of the Project. If the Project is not meeting its expected milestones, decisions and/or adapted management will be considered. If there are any changes to the project, the DBW grant manager will be notified and changes will be made upon approval from the DBW grant manager.

The Project will improve the prevention of quagga and zebra mussel introduction and infestation by the following means.

1. The implementation of a decontamination process will decrease the threat of infestation from recreational equipment exposed to an infested area, equipment that is suspected of infestation, or when a threat cannot be determined. In addition, the decontamination station can limit the amount of frustration from visitors that are required to hold their watercraft in quarantine for 7 or 35 days due to potential risk of mussel introduction. This process will also add an educational opportunity for staff to explain the rationale for each decontamination option to the watercraft operator.
2. Upgrading the South Marina from a volunteer to a staff inspection station will greatly decrease the risk on infestation. In addition, installing mechanical arms at North and South Marina will aid in the prevention of launching watercraft during the inspection closed hours.
3. Incorporating a reciprocal banding program will create more of a partnership between the users of the reservoir and the prevention strategy of the Prevention Program and staff. This program offers a win-win opportunity among regular users of the multiple waterbodies under the Prevention Program by expediting the inspection process and promoting cooperation to preserve the recreational activities that they enjoy - hence giving the water users an incentive to prevent infestation. It also provides an opportunity for one-on-one education and creating a better relationship with staff and the boaters during watercraft banding.

The goal of the project, and ultimately LTCRPP, is for all waterbodies to remain quagga and zebra mussel free. Therefore, visitor surveys, inspection records, and monitoring results will be reviewed periodically to verify visitors' acceptance of the program and the program is operating to expectations.

Section F. Water Quality and Quagga and Zebra Monitoring. *Since monitoring is such an important component of a prevention program, it is important to discuss it here, even if it is not a part of the proposed Project. Therefore, discuss what kind of monitoring (plankton tow, substrate, or visual) frequency, identify the responsible party(ies) for collecting the data and how the data is shared inside and outside of the reservoir and region.*

Monitoring is not included in this Project proposal, however monitoring is an important part of the reservoir and the LTCR Program. Each water body, under the Prevention Plan, has a required monitoring component. Some of the entities do their own, while other water bodies have monitoring covered under other entity programs (Citizen Monitors, Hydro - Energy Water Agency, Co- Hydro - Energy Water Management Division, Department of Water Monitoring Program and Kelp Water Monitoring Program). Monitoring is coordinated among the entities, so that it can be conducted monthly in each water body. Monitoring consists of visual, plankton tow and submersible devices. Water chemistry (temperature, dissolved oxygen, pH, and calcium) is conducted quarterly. The data is accessible to all entities in the Program through the State's monitoring database. The State's database is also accessible to the public, and new information will be included in the quarterly newsletters available on the [LTCR Program Website](#).

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Section G. Outreach and Education

Identify how outreach and education is to be conducted. Discuss the goals, outcomes, and the audience. This information should be discussed, although; it is not directly part of the Project. The main point in this section is to create prevention awareness to the public.

Outreach and Education should be almost at every opportunity when working with the public.

The goals and outcomes of Outreach and Education include, but are not limited to;

- Create water user/visitor awareness of the destruction mussels pose in the reservoir as well as on recreational equipment and the need for public support for prevention;
- Expand the visual monitoring efforts by encouraging water users to identify and report any presence of mussels during their activities in the reservoir;
- Lower the risk of mussel introduction by providing prevention techniques to water users; and
- Maintain a mussel free reservoir.

The primary audience of outreach and education is the water user; the secondary audience is the communities within and outside of the reservoir LLCRPP area, including the surrounding industries.

Education will be promoted through visitor face-to-face contact with staff in the reservoir recreational area. This will be conducted by providing staff with the tools such as training, pamphlets on mussel identification and prevention techniques, signage upon entry to the reservoir, talking to watercraft operators during inspection and decontamination, provide pictures of destruction caused by infestation and the associated costs. Materials (prevention signage and pamphlets) will be provided to neighboring towns and cities to educate the community and visitors alike. Posters, brochures, and other outreach and education materials are provided by the 100th Meridian Initiative (<http://www.100thmeridian.org/ZTZ2007.asp>, and the Department of Fish and Wildlife (<https://www.wildlife.ca.gov/Conservation/Invasives/Quagga-Mussels>). Web links to the information as well as the quarterly report will be available at the [LTCR Program Website](#).

Section H. Key Officers, Oversight Bodies, Consultants or Other Service Providers

Key Officers

John George, Director of Ultimate Reservoir Department of Water

Responsibility: Overall management of activities at Ultimate Dam and the activities in the reservoir. Mr. George has a facility engineering license and 25 years of experience in reservoir management.

Tom David, General Manager Hydro - Energy Water Agency

Responsibility: The Water Agency is a local cost-sharing partner for Ultimate Reservoir. The Water Agency releases water at night for energy and also determines the amount of water to be released when the reservoir is in the water supply pools. Mr. David has a PhD in Hydro-Geo

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Engineering and has several years of experience in managing facilities.

Connie Marshall, Manager

Co-Hydro - Energy Water Agency Management Division, Recreational Facility Manager

Responsibilities: Operates under the Water Agency to manage all recreational activities in the Reservoir including inspection, bait control, campgrounds, and coordinate enforcement. Co-Energy and Water Spike Management have the expertise and several years of experience managing recreational areas. Ms. Marshall has a master's degree in Environmental Management and several years of experience in reservoir management. The Recreational Management staff coordinates with the Hydro - Energy Water Agency to implement improvement projects to the area, and is applying for appropriate grants to fund the improvements.

Oversight Body

John George, Director Department of Water Resources
1234 Forest Avenue
Hangtown, Kelp 56123
(231) 622-1234

Consultants

Sure Electrical Company

Responsibilities: Provide the electrical service to connect the electricity from the facility to the mechanical arms at South and North Marina as well as to the decontamination station. Sure Electrical Company is the main electrical service in the area. Sure Electrical Company has provided services to all waterbodies for twenty years.

Quagga and Zebra Mussel Inspection Trainers

Responsibilities: Provide inspection II and III training to new staff and update existing staff of new procedures or refresh them on existing information. Quagga and Zebra Mussel Inspection Trainers are certified professional trainers and have fifteen years of experience in the detection of the quagga and zebra mussels for watercraft infestations. For consistency in LTCRPP, all entities covered under the LTCRPP are required to use Quagga and Zebra Mussel Inspection Trainers for any training needs.

Organizational Chart is attached.

Section I. Readiness to Proceed

The proposed Project is ready to proceed. Because this Project builds-on and improves current management strategies in Ultimate Reservoir and water bodies under the LTCRPP, all of the planning and prerequisites required for an implementation Project has been completed. The only outstanding item is CEQA. A mitigated negative declaration has been completed for the Project, which meets the CEQA requirements.

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Example Scope of Work (Implementation/Construction Project)

The section includes a brief purpose of the Project. The Scope of Work (SOW) should be laid-out in logical, sequential steps with tasks and subtasks. The objective of this format (sequential tasks and subtasks) is to develop the SOW consistent with the format required in the Grant Agreement. This would expedite the grant agreement process.

The purpose of this project is to improve upon the existing prevention in the reservoir. The Project includes the procurement of a mitigated negative declaration, the installation of a decontamination unit, mechanical arms, reciprocal banding program; staff inspection process at South Marina, and an assessment of the existing Prevention Program. NEPA is not required. No permits are anticipated.

Task 1.0 Preparation of CEQA Documents

- 1.1 Prepare an initial study
- 1.2 Prepare and file for the proposed mitigate negative declaration
- 1.3 Adopt the mitigated negative declaration

Deliverable: Mitigated Negative Declaration

Task 2.0 Installation of a decontamination station and mechanical arms at North Marina

- 2.1 Collect bids from manufactures for a self-contained, free standing mobile decontamination and wastewater recycling system unit.
- 2.2 Purchase the most appropriate unit according to the 2.1 task specifics.
- 2.3 Prepare the site for installation of unit including grading and paving the decontamination station area.
- 2.4 Install the decontamination unit, and connect all electrical and water supplies to the unit.
- 2.5 Install two mechanical arms at ramps.

Deliverables: Photos of the installed unit and decontamination area, any best management practices/mitigation strategies, evidence of insurance and maintenance on the units and arms and summary of the operation of the decontaminating watercraft.

Task 3.0 Implement watercraft inspection training at the inspection station at the South Marina

- 3.1 Employ two full-time and four part-time staff to conduct inspections.
- 3.2 Provide Inspection II training to the new staff.
- 3.3 Provide hand held device to the staff access and record watercraft information into QID.
- 3.4 Provide the same inspection equipment and material (handheld device, tag and stickers for banding etc.).
- 3.5 Install a mechanical arm at the ramp.

Deliverables: Training on inspection protocols, copies of the staff training certification, photos and purchase information for the control arm.

Task 4.0 Reciprocal banding program

- 4.1 Implement the reciprocal banding program at North Marina.

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- 4.1.1 Inspect, decontaminate, and quarantine vessels for dreissenid mussels. Once cleared, place a wire security band between the trailer and watercraft.
- 4.1.2 Upon leaving the reservoir, the staff places a new security band on the watercraft.
- 4.2 Implement the reciprocal band program at South Marina using the same process as the North Marina.

Deliverables: Record the number of recipients using the reciprocal band program..

Task 5.0 Draft the Final Project Report

Details of the final report should include, but are not limited to: mussel prevention measures (installation of equipment, construction, inspection, monitoring, outreach and education, etc.); description of the project, performance, success, and shortcomings; lessons learned; project cost and actual cost of the project; and identify next steps.

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Tables can be designed as deemed necessary. However, a table(s) for the task schedule and a table of deliverables are required.

Task Schedule

Task	Sub task	Item	After Execution of Grant – (Days)
1.0		CEQA: Mitigated Negative Declaration (ND)	
	1.1	Preparation of the Initial Study	Completed
	1.2	Preparation and file the proposed Mitigated ND	Completed
	1.3	Adopt the Mitigated ND	Completed
		Deliverable	30
2.0		Installation of the decontamination unit and mechanical arm	
	2.1	Collect bids from manufactures for the decontamination unit	60
	2.2	Purchase decontamination unit	90
	2.3	Prepare site for installation	150
	2.4	Install unit	180
	2.5	Install mechanical arms	180
		Deliverable	195
3.0		Implement inspection station at the South Marina	
	3.1	Employ inspection staff	60
	3.2	Inspection Training	90
	3.3	Purchase Microsoft tablet and software	60
	3.4	Stock inspection with supplies and equipment	60
	3.5	Install mechanical arm	180
		Deliverable	195
4.0		Reciprocal banding program	
	4.1	Implementation of the North Marina Banding Program	90
	4.2	Implementation of the South Marina Banding program	90
		Deliverable	105
5.0		Reports	
	5.1	Draft Report	May 1, 2018
	5.2	Final Report	June 1, 2018

**Ultimate Reservoir Mussel Prevention Program Improvement Project
Hydro Energy and Water Spike Recreational Management Division**

TABLE OF DELIVERABLES

ITEM	DESCRIPTION	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT – SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE			
A.	PLANS AND GENERAL COMPLIANCE REQUIREMENTS		
1.	Resolution or a Letter of Approval to receive the funding	Upon Execution of Grant	
2.	Name and GIS location of the reservoir (decimal)	Day 30	
3.	GIS location of the project site (decimal)		
4.	Location/site address	Day 30	
5.	Monitoring Reports		Quarterly First Report
6.	Proof of monitoring data submission to DBW, DFW Region Representative, DFW Headquarter Invasive Species Program	Before final invoice	
7.	Copy of final CEQA/NEPA Documentation	Month, Day, Year	
8.	Public Agency Approvals, Entitlement or Permits		As needed
9.	Right of Way Documentation		As needed
B.	PROJECT – SPECIFIC REQUIREMENTS		
	Outreach and Education Events		
1.			Month, Day, Year
2.			Month, Day, Year
3.			Month, Day, Year
	PROJECT DELIVERABLES		
1.	Task 1:		Month/Year
2.	Task 2:		Month/Year
3.	Task: 3		Month/Year
EXHIBIT B – INVOICING, BUDGET DETAIL, AND REPORTING PROVISIONS			
A.	INVOICING		Quarterly
B.	REPORTS		
1.	Progress Reports by the twentieth (20 th) of the month		Quarterly
2.	Annual Progress Summaries		Annually by March 1 st

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3.	Draft Project Report	Month, Day, Year
4.	Final Project Report	Month, Day, Year
5.	Final Project Summary	Before Final Invoice
6.	Final Project Inspection and Certification	Before Final Invoice
EXHIBIT D – SPECIAL CONDITIONS		
1.	Lobbying Certification (See Exhibit D, Provision 1.)	With Final Report

Ultimate Reservoir Mussel Prevention Program Improvement Project Hydro Energy and Water Spike Recreational Management Division

Task Budget

NOTE: Task Budget must align with the Scope of Work

Project Proposal Title:

Task No. X								Task Title: XXXX			
Applicant - Personnel	Hours	Salary (\$/hour)	Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding (\$)		Total Funding (\$)				
					Applicant Contribution	Other Funding Source					
Position Title			0				0				
Position Title			0				0				
Position Title			0				0				
Applicant- Non Personnel											
Materials			0				0				
Travel			0				0				
Professional Services- Consulting -Personnel	Hours	Salary (\$/hour)	Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding (\$)		Total Funding (\$)				
					Appl. Contrib	Other Funds					
Position Title			0				0				
Position Title			0				0				
Position Title			0				0				
Professional Services- Consulting (Non-Personnel)											
Materials			0				0				
Travel			0				0				
Other Items			Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding (\$)		Total Funding (\$)				
					Appl. Contrib	Other Funds					
Construction/Implementation Costs (\$)			0				0				
Other Costs (\$) (Description)			0				0				
Task Total (\$)			0	0	0	0	0				
Task No. X								Task Title: XXXX			
Applicant - Personnel	Hours	Salary (\$/hour)	Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding (\$)		Total Funding (\$)				
					Appl. Contrib	Other Funds					
Position Title			0				0				
Position Title			0				0				
Position Title			0				0				
Applicant - Non Personnel											
Materials			0				0				
Travel			0				0				
Professional Services- Consulting (Personnel)	Hours	Salary (\$/hour)	Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding (\$)		Total Funding (\$)				
					Appl. Contrib	Other Funds					
Position Title			0				0				
Position Title			0				0				
Position Title			0				0				
Professional Services- Consulting (Non-Personnel)											
Materials			0				0				
Travel			0				0				
Other Items			Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding (\$)		Total Funding (\$)				
					Appl. Contrib	Other Funds					
Construction/Implementation Costs (\$)			0				0				
Other Costs (\$) (Description)			0				0				
Task Total (\$)			0	0	0	0	0				

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Task No. X	Task Title: XXXX						
Applicant - Personnel	Hours	Salary (\$/hour)	Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding		Total Funding (\$)
					Appl. Contrib	Other Funds	
Position Title			0				0
Position Title			0				0
Position Title			0				0
Applicant - Non Personnel							
Materials			0				0
Travel			0				0
Professional Services - Consulting (Personnel)	Hours	Salary (\$/hour)	Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding		Total Funding (\$)
					Appl. Contrib	Other Funds	
Position Title			0				0
Position Title			0				0
Position Title			0				0
Professional Services - Consulting (Non-Personnel)							
Materials			0				0
Travel			0				0
Other Items			Total Cost (\$)	DBW Fee Grant Funding (\$)	Non-DBW Fee Grant Funding		Total Funding (\$)
					Appl. Contrib	Other Funds	
Construction/Implementation Costs (\$)			0				0
Other Costs (\$) (Description)			0				0
Task Total (\$)			0	0	0	0	0
GRANT TOTAL (\$)			0	0	0	0	0

**Ultimate Reservoir Mussel Prevention Program Improvement Project
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Line Item Budget Worksheet							
Note: Olga has lookup tables for positions, expense and services. See "Lookup Table Categories" tab for the list. A description of each category is at the bottom of this spreadsheet.							
Project Title							
A. PERSONNEL							
POSITION	HOURS	SALARY (\$/HOUR)	TOTAL COST (\$)	DBW FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)
					Applicant Contribution	Other Funding Source	
			\$0.00				\$0.00
			\$0.00				\$0.00
			\$0.00				\$0.00
							\$0.00
							\$0.00
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
B. OPERATING EXPENSES							
Supplies							
ITEM	DESCRIPTION	TOTAL COST (\$)	DBW FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)	
				Appl. Contrib.	Other Funds		
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	
Equipment							
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)	
				Appl. Contrib.	Other Funds		
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	
Travel							
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)	
				Appl. Contrib.	Other Funds		
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	
Other Expenses							
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)	
				Appl. Contrib.	Other Funds		
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	

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C. PROFESSIONAL/CONSULTANT SERVICES							
C1. Personnel							
POSITION	HOURS	SALARY (\$/HOUR)	TOTAL COST (\$)	DBW FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)
					Applicant Contribution	Other Funding Source	
							\$0.00
							\$0.00
							\$0.00
							\$0.00
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
C2. Non-Personnel Professional/Consultant Service							
Supplies							
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)	
				Appl. Contrib.	Other Funds		
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Equipment							
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)	
				Appl. Contrib.	Other Funds		
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Travel							
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)	
				Appl. Contrib.	Other Funds		
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Other Expenses							
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)	
				Appl. Contrib.	Other Funds		
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
D. CONSTRUCTION							
D1. Personnel							
POSITION	HOURS	SALARY (\$/HOUR)	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)
					Appl. Contrib.	Other Funds	
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
							\$0.00
TOTAL			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

**Ultimate Reservoir Mussel Prevention Program Improvement Project
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D2. Non-Personnel Construction						
Supplies						
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)
				Appl. Contrib.	Other Funds	
						\$0.00
						\$0.00
						\$0.00
						\$0.00
TOTAL		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Equipment						
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)
				Appl. Contrib.	Other Funds	
						\$0.00
						\$0.00
						\$0.00
						\$0.00
TOTAL		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Travel						
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)
				Appl. Contrib.	Other Funds	
						\$0.00
						\$0.00
						\$0.00
						\$0.00
TOTAL		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Other Expenses						
ITEM	DESCRIPTION	TOTAL COST (\$)	FUNDING (\$)	NON-DBW FUNDING(\$)		TOTAL FUNDING (\$)
				Appl. Contrib.	Other Funds	
						\$0.00
						\$0.00
						\$0.00
						\$0.00
TOTAL		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRAND TOTAL		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Identify Non-DBW Funding Sources						
Funding Sources				Funding Amount (\$)		
<p>A. Personnel Services. This includes classification, hours, and rates. The total must add up to the total column. These individuals must be employed by the Grantee. If CEQA, etc. documents are done by Grantee's employee, costs are incurred in the hours/total. Includes: wages, fringe benefits, and preparation of required progress and final reports.</p>						
<p>B. Operating Expense. All Grantee expenses associated with the Project including permits fees, etc. Examples: Document Reproduction, Office Supplies, Office Expenses, Travel, Permit Fees, Lab Equipment, etc. Note: If an item is described as "equipment" and is over \$5,000 or more per item, itemize each piece of equipment. Example: decontamination unit, mechanical ramp arm monitoring equipment etc.</p>						
<p>C. Professional and Consultation Services. C1 - List salary/wage costs and funding sources. C2 - List type of services that are not salary related.</p>						
<p>D. Construction (Contracted Services). D1 - List salary/wage costs and funding sources. If construction services are done by Grantee employee, these expenses are noted here and "Contracted Services" is deleted. D2 - List type of services that are not salary related.</p>						